

REMARKS

Claims 17-46 are currently pending in the application; claims 17 and 32 are independent. Applicants have amended claims 17, 18 and 32 by this Amendment. Support for the amendments is found, for example, at Page 4, Paragraph 2 to Page 6, Paragraph 4 and Page 9, Paragraph 4 to Page 10, Paragraph 4 of the specification, and Figures 5-7 of the drawings. No new matter has been introduced by way of this Amendment. Accordingly, favorable reconsideration of the pending claims is respectfully requested.

The Examiner has rejected claims 17-46 under 35 U.S.C. §112, second paragraph, as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner has rejected the limitation “an axis of the dental implant” as allegedly unclear with respect to the dental implant, which may have multiple axes. Applicants have amended claims 17 and 32 to recite, “the dental implant having an outer profile substantially radially symmetrical to a central axis”. Applicants respectfully submit that this amendment identifies a central axis, which is distinguished from other axes of the dental implant. The Examiner has further alleged that claim 17 and claim 18, depending from claim 17, both recite “an abutment”, which makes the claims unclear. Applicants have amended claim 18 to recite “the abutment” in place of “an abutment”. Accordingly, the above rejection of claims 17-46 35 U.S.C. §112, second paragraph, as allegedly indefinite is overcome, and withdrawal thereof is respectfully requested.

The Examiner has rejected claims 17-18 under 35 U.S.C. §102(b) as allegedly anticipated by U.S. Patent No. 6,102,702 to Folsom et al., (hereinafter “Folsom”). Applicants respectfully submit the rejection is overcome in light of the following remarks.

To maintain a claim rejection under 35 U.S.C. §102, a single reference must disclose each and every element recited in the claim. Folsom does not do so.

Applicants' independent claim 17, as amended, recites an intraosteal dental implant including a bore in the form a blind hole, the bore being shaped and devised such as to rotationally secure an abutment receivable in the dental implant. The dental implant has an outer profile substantially radially symmetrical to a central axis. The bore is provided with a substantially cylindrical sleeve extending substantially coaxially to the dental implant. The dental implant includes an inner neck surface for engaging a complementary surface of the abutment. Specifically, the sleeve extends beyond the inner neck surface to define an intersection curve between the inner neck surface of the dental implant and the sleeve, the intersection curve not lying in a plane perpendicular to the axis of the dental implant.

As illustrated in Figures 1-3, Folsom discloses a conventional dental implant assembly (10) including a dental implant (11) and an abutment (13) assembled into the dental implant. The dental implant includes a bore (12) defined by an inner wall (17), for receiving an insertion end (15) of the abutment. The dental implant has a generally conic entrant region (18) for smoothly receiving the insertion end of the abutment. A locking element (31) is disposed within the bore of the dental implant to secure coupling between the abutment and the dental implant. Specifically, the Examiner has interpreted the conic entrant region and the locking element as the disclosure of the inner neck surface and the sleeve of claim 17, respectively.

However, as depicted in Figure 1 of Folsom, the locking element does not extend beyond the conic entrant region. Thus, no intersection curve is defined by the intersection of the

entrant region and the locking element, as opposed to the intersection curve defined by the sleeve extends beyond the inner neck surface and the inner neck surface, as recited by claim.

Furthermore, the locking element is in the form of a wedge nut having an oblique bearing surface (34), to engage directly an oblique surface (23) at the tip of the insertion end of the dental implant within the bore of the dental implant. Thus, Folsom structurally prohibits the locking element extending beyond the entrant region.

In stark contrast, the present invention, as recited by claim 17, contemplates a novel configuration for the combination of a dental implant and an abutment, wherein an intersection curve, defined by an inner neck surface engaging a complementary surface of the abutment and a sleeve extending beyond the inner neck surface, does not lay in a plane perpendicular to the axis of the dental implant.

Thus, Folsom fails to disclose each and every element of claim 17, from which claim 18 depends. Accordingly, the rejection of claims 17-18 under 35 U.S.C. §102(b) based on Folsom is overcome, and withdrawal thereof is respectfully requested.

The Examiner has rejected claims 17-19, 21-22, 27-28, 30-31 and 46 under 35 U.S.C. §102(b) as allegedly anticipated by U.S. Patent Application Publication No. 2003/0224328 to Sopian (hereinafter "Sopian"). Applicants respectfully submit the rejection is overcome in light of the following remarks.

To maintain a claim rejection under 35 U.S.C. §102, a single reference must disclose each and every element recited in the claim. Sopian does not do so.

Applicants' independent claim 17 is discussed above.

Sapian discloses an implant-bone locking mechanism (100), including a root portion (103) and an abutment tube (128) assembled into the root portion through screw threads. The root portion includes an outwardly flared cradle (105) for receiving a crown portion (170). During the assembling process, the lower cylindrical body (132) of the abutment tube is screwed into a bore (109) formed in the root portion.

The Examiner has interpreted the top surface of the cradle portion and the abutment tube as disclosures of the inner neck surface and the sleeve of claim 17, respectively. The Examiner has further alleged the intersection curve between the top surface of the cradle portion and the abutment tube does not lay in a plane perpendicular to the axis of the root portion.

Applicants respectfully disagree with the Examiner for at least the following reasons.

Initially, Applicants respectfully submit that the top surface of cradle portion of Sapian does not engage a complementary surface of the abutment. Instead, the top surface of the cradle portion, in the form of an outwardly flared surface, directly engages a crown portion of the dental implant.

Furthermore, as evidenced from Figure 8 of Sapian, the intersection curve between the abutment tube and the top surface of the cradle portion is in a plane perpendicular to the axis of the root portion.

With regard to the interpretation of the limitations of claim 17, Applicants respectfully submit that the intersection curve of claim 17 is defined as between the inner neck surface and the sleeve when the sleeve extends beyond the inner neck surface.

However, the Examiner has interpreted the complementary screw threads of the abutment tube and the cradle portion, disclosed by Sapien, as the intersection curve. Applicants respectfully submit that the complementary threads of Sapien cannot be considered an “intersection curve” within the meaning given by claim 17. As a matter of fact, the complementary threads always exit as a coupling means, disregarding the intersection of the abutment tube and the top surface of the cradle.

Thus, Sapien fails to disclose each and every element of claim 17, from which claims 18-19, 21-22, 27-28, 30-31 and 46 depends. Accordingly, the rejection of claims 17-19, 21-22, 27-28, 30-31 and 46 under 35 U.S.C. §102(b) based on Sapien is overcome, and withdrawal thereof is respectfully requested.

The Examiner has further rejected claims 20, 23-26 and 29 under 35 U.S.C. §103(a) as allegedly unpatentable over Sapien. The rejection is respectfully traversed.

Claim 17, from which claims 20, 23-26 and 29 depend, is discussed above. Sapien is discussed above with respect to claim 17. As discussed, Sapien fails to disclose each and every element of claim 17. The Examiner has relied on Sapien for the alleged teaching of further limitations recited by the dependent claims. The alleged teaching of Sapien does not remedy the underlying deficiencies of Sapien relative to claim 17.

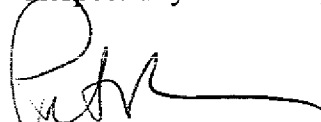
Thus, Sapien does not teach or fairly suggest the combination of features recited in claims 20, 23-26 and 29. Accordingly, the rejection of claims 20, 23-26 and 29 under 35 U.S.C. §103(a) based on Sapien is overcome, and withdrawal thereof is respectfully requested.

The Examiner has further rejected claims 17-30 and 32-45 on the ground of nonstatutory obviousness-type double patenting over claims 3-6 and 9-14 of U.S. Patent No. 7,329,124 to the same inventors and assignees of the present application. The Examiner has further rejected claims 31 and 46 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 3-6 of U.S. Patent No. 7,329,124 in view of Sapien.

In response, in order to advance prosecution, Applicants submit herewith a terminal disclaimer disclaiming any portion of the term of a U.S. patent, which eventuates from the present application, which extends beyond the term of U.S. Patent No. 7,329,124. Accordingly, the Examiner is respectfully requested to withdraw the above rejections under the judicially created doctrine of obviousness-type double patenting.

In view of the foregoing amendments and remarks, it is firmly believed that the present application is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,



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